

FIG. 1A-1

FIG. 1A-2

## FIG. 1A

GAATTCCCCAACAGAGCCAAGCTCTCCATCTAGTGACAGGAAAGCTAGGAAAGC 39 (UPPER: SEQ ID NO.: 1)  
19 (LOWER: SEQ ID NO.: 4)

TTCCCTTCACTACAAAACCTTCATTGCTGGCAAAGAGAGTTAATTCAATGTAGACAT 119  
39

CTATGTAGGCAATTAAACCTATTGATGTATAAACAGTTGCATTATGGGGCAAC 179  
59

TAAATACATTCTAGGACTTATAAAGATCACTTTTATTATGACACAGGTGGACAAG 239  
79

ATGGATTATCAAGGTCAAGTCCAATCTATGACATCAATTATACATGGAGCCCTGC 299  
M D Y Q V S S P I Y D I N Y Y T S E P C 99

FIG. 1A-1

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CAAAAATCAATGTGAAGCAAATGCCAGCCCTCCGGCTCATCTACTACTGGTG 359  
 Q K I N V K Q I A A R I L P P L Y S L V 119  
 TTCAATCTTGGTTTGTGGCAACATGCTGGTCAATCCTCATCCTGATAAACGGAAAGG 419  
 F I F G P V G N M L V I L I N C K R 139  
 CTGAAGAGCATGACTGACATCTACCTGCTCAACCTGGCCATCTGACCTGTTTCCCT 479  
 L K S M T D I Y L L N L A I S D L F F L 159  
 CTTACTGTCCCTTCTGGCTCACTATGCTGCCGCCAGTGGACTTGGAAATAACAATG 539  
 L T V P F W A H Y A A Q W D F G N T M 179  
 TGTCAACTCTTGACAGGGCTCTATTTTATAGGGCTTCTCTGGAAATCTCTCATCATC 599  
 C Q L L T G L Y F I G F F S G I F F I I 199  
 CTCCTGACAATCGATAGGTACCTGGCTGCTGCCATGCTGTGTGGTTAAAGCCAGG 659  
 L L T I D R Y L A V V H A V F A L K A R 219  
 ACGGTACACCTTGGGTGGTGACAAGGTGATCACTGGTGGTGGCTGTGGTCT 719  
 T V T F G V V T S V I T W V V A V F A S 239  
 CTCCAGGAATCATCTTACCAAGATCTCAAAAGAAGGTCTTCAATACACCTGGAGCTCT 779  
 L P G I I F T R S Q K E G L H Y T C S S 259  
 CATTTCATACA  
 H F P Y

FIG. 1A-2

GAATTCCCCAACAGGCCAAGCTCTCCATCTAGGGACAGGGAGCTAGGAAACCC 59 (UPPER: SEQ ID NO.: 2)  
19 (LOWER: SEQ ID NO.: 5)

TTCCCTTCACTACAAACTTCAATTGCTTGGCCAAAAAGAGAGTTAATTCAATGTTAGACAT 119  
39

CTATGTAGGCAATTAAAAACCTATTGATGTATAAACAGTTGCAATTCAATGGAGGGCAAC 179  
59

TAAATACATTCTAGGACTTTATAAAGATCACTTTTATTATTGACACAGGGTGGAAACAG 239  
79

ATGGATTATCAAGTGTCAAGTCCAATCTATGACATCAATTATTACATGGAGCCCTGC 299  
MDYQVSSPITYDINYYTSEPC 99

FIG. 1B-1

FIG. 1B-1  
FIG. 1B-2

FIG. 1B

CAAAATCAATGTGAAGCAAATGCCAGCCGCCCTCCGCTCTACTCACTGGTG	359
Q K I N V K Q I A A R L L P P L Y S L V	119
TTCATCTTGGTTGGGGCAACATGCTGGTCATCCTCATCCTGATAAACTGCAAAGG	419
F I F G F V G N M L V I L I L I N C K R	139
CTGAAGGCACTGACATCTACTGCTCAACCTGGCCATCTGTGACCTGTTTCCTT	479
L K S M T D I Y L L N L A I S D L F F L	159
CTTACTGTCCTCTGGGCTCACTATGCTGCCAGTGGACTTGGAAATAACAATG	539
L T V P F W A H Y A A Q W D F G N T M	179
TGTCACACTCTGACAGGGCTCTATTTATAGGCTTCTCTCTGGAAATCTTCATATC	599
C Q L L T G L Y F I G P F S G I F F I I	199
CTCCGTACAATCGATAGGTACCTGGCTCCATGCTGTGTGTTGGCTTAAAGCCAGG	659
L L T I D R Y L A V V H A V F A L K A R	219
ACGGTCAACCTTGGGTGGTACAAGTGTGATCACTGGGTGGCTGTGTTGGCTCT	719
T V T F G V V T S V I T W V V F A S	239
CTCCCAGGAATCATCTTACCAAGATCTCAAAAGAAGGTCTTCAATTACACCTGCAGGTCT	779
L P G I I F T R S Q X E G L H Y T C S S	259
CATTTCATACAGTCAGTATCAATTCTGGAAAGAATTCCAGACATTAAAGATAGTCATC	839
H F P Y S Q Y Q F W K N F Q T L K I V I	279

FIG. 1B-2

TTGGGGCTGGTCCGGCTGCTTGTCACTGGCTACTGGGAATCTAAACT 899  
 L G L V L P L V M V I C Y S G I L K T 299  
 CTGGTTGGGTGTCGAATGAGAAGAACAGGGCACAGGGCTGTGAGGCTTATCACCAC 959  
 L L R C R N E K K R H R A V R L I F T I 319  
 ATGATTGTTATTTCCTCTGGCTCCCTACAAACATTGTCTCTCCTGAACACCTTC 1019  
 M I V Y F L F W A P Y N I V L L N T F 339  
 CAGGAATTCTTGGCCTGAATAATTGCACTGAGCTTAACAGGTGGACCAAGCTATGCAG 1079  
 Q E F F G L N N C S S N R L D Q A M Q 359  
 GTGACAGAGACTCTGGGATGACGGCAACTGTGCATCAACCCCATCATCTATGCCTTGTCT 1139  
 V T E T L G M T H C C I N P I I Y A F V 379  
 GGGGAGAGTTAGAAACTACCTCTTAAGTCTCTTCTTCCAAAGCACATTGCCAACGCTTC 1199  
 G E K F R N Y L L V F F Q K H I A K R F 399  
 TGCAAATGCTGTCTATTTCAGCAAGGGCTCCGGAGGCAAGGTCAGTTACACC 1259  
 C K C S I F Q Q E A P E R A S S V Y T 419  
 CGATCCACTGGGGAGGAGAAATAATCTGTGGCTTGTGACACGGACTCAAGTGGCTGGT 1319  
 R S T G E Q E I S V G L \* 439  
 GACCCAGTCAGAGTTGGCACATGGCTTAGTTTCATACACAGCCTGGCTGGCGTGG 1379  
 TTGGNNAGGGCTTTTAAAGGAAGTTACTGTTATAGGGGTCTAAGATTCATT 459  
 TATTGGCATCTGTTAAAGTAGATTAGATCCGAATTIC 1439  
 479

FIG. 1B-3

FIG. 1D-1  
FIG. 1D-2

FIG. 1D

GAATTCCCCAACAGGCCAAGCTCTTCCATCTAGGGACAGGGTAGGCAAAACC 59 (UPPER: SEQ ID NO. 3)  
TTCCCTTCACTACAAACTCATGGCTGGCCAAAAAGAGAGCTTAATTCAATGTAGACAT 19 (LOWER: SEQ ID NO. 6)

TTATGTAGGCAATTAAAAACCTATTGATGTATAAACAGTTGCATCATGGAGGGAAC 119  
59

TAAATACATTCTAGGACTTTATAAAAGATCACTTTTATTATGCACAGGGTGGAAACAAG 179  
79

ATGGATTATCAAGTGTCAAGTCCAATCTATGACATCAATTATTATACATGGAGGCCCTGC 299  
M D Y Q V S S P I Y D I N Y T S E P C 99

FIG. 1D-1

CAAAAAATCAAATGTGAAGCAAATGGAGCCGGCTCCCTGCCTCCGGCTCTACTCACTGGTG  
 Q K I N V K Q I A A R L L P P L Y S L V 359  
  
 TTCACTTGTGGGGCAACATGCTGGTCATCCTCATCCTGATAAACTGCAAAGG  
 F I F G F V G N M L V I L I L I N C K R 419  
  
 CTGAAGAGGCAATGACTGACATCTAACCTGCTCAACCTGGCCATCTGTGACCTGTTTCCTT  
 L K S M T D I Y L L N L A I S D L F F L 139  
  
 CTTAATGTCGCCCTCTGGGCTCAACTATGCTGGCCCACTGGGACTTTGGAAATAACATG  
 L T V P F W A H Y A A Q W D F G N T M 519  
  
 TGTCAACTCTTGACAGGGCTCTATTATAGGCTTCTCTGGAAATCTCTTCATCATC  
 C Q L L T G L Y F I G F F S G I F F I I 599  
  
 CTCCCTGACAAATCGATAGGTACCTGGCTGGTCCATGGCTTGGTTGCTTAAAGCCAGG  
 L L T I D R Y L A V V H A V F A L K A R 659  
  
 ACGGTCAACCTTGGGGTGGTCAACAAGTGTGATCACTGGTGGTGGCTGGTGTGGTCT  
 T V T F G V V T S V I T W V V A V F A S 239  
  
 CTCGGAAATCATCTTACCAAGATCTCAAAAGAAGGTCTTCAATTACACCTGCAGGCT  
 L P G I I F T R S Q K E G L H Y T C S S 779  
  
 CATTTCACATTAAGATAAGTCATCTGGGGCTGGCTGGCTGGTGTGGTCTGGTCT  
 H F P Y I K D S H L G A G P A A C H G 839  
 279

FIG. 1D-2

CATCTGCTACTCGGAAATCCTA	AAACTCTGGTTGGAAATGAGAAGAGGCA	899
H L L G N P K N S A S V S K *		299
CAGGGCTGAGGCTTATCTTCACCATCATGAACTTGTATTTCCTCTGGCTCCCTA		959
		319
CAACATTGTCTCTCCCTGAAACACTTCCAGGAATTCTTGCCTGAATAATTGAGTAG		1019
		339
CTCTAACAGGTGGACCAAGCTATGCCAGTCACAGAGACTCTTGGGATGACCACTGCTG		1079
		359
CATCAAACCCCATCATCTATGCCCTTGTGGGGAGAAGTTAGAAGACTACCTCTTAGCTT		1139
		379
CTTCCAAAGCACATTGCCAACGCTTCTGGAAATGGCTTATTTTCCAGGAAGAGGC		1199
		399
TCCCGAGCGAGCAAGCTCAGTTAACCCGATCCACTGGGAGGAGGCAAGGG		1259
		419
CTTGTGACACGGACTCAAGTGGGCTGGTACCCAGTCAGAGTTGTGCACATGGTTAGTT		1319
		439
TTCTACACGGCTGGCTGGGCTGGTGGNAGGGCTTAAAGGAAGTTACT		1379
		459
GTTATAGAGGGCTAAAGATTCATCCATTATTGGCATCTGTTAAAGTAGATTAGATCC		1439
		479
GAATTTC		

FIG. 1D-3

FIG. 2A

IV  
 CCR5 VPFWAHYA ALQDFGNDMCOLLITGLYFIGFFSGIFFILLTIDRYLA IVHAFALKARTVTFGVVITSVITWVVAVASLPGLIFTRSKEGH 177  
 hCC-R2b IPIWAISI ALANWFGNDMCKLITGLYFIGFFSGIFFILLTIDRYLA IVHAFALKARTVTFGVVITSVITWVVAVASLPGLIFTRSKEGH 180  
 hCC-R3 IPIFWIHYTRGHNNWFGIGMNCNLISSPFTYTGLYSEIIFILLTIDRYLA IVHAFALKARTVTFGVVITSVITWVVAVASLPGLIFTRSKEGH 182  
 hCC-R1 IPIFWIDYKLUKDDWFGDAMCKLISSPFTYTGLYSEIIFILLTIDRYLA IVHAFALKARTVTFGVVITSVITWVVAVASLPGLIFTRSKEGH 182  
 hCC-R4 IPIFWGTYA ALDOWFGIGKOMISWMTVGEYSGITFVIMISIDRYLA IVHAFALKARTVTFGVVITSVITWVVAVASLPGLIFTRSKEGH 186

III  
 CCR5 1 M<sub>1</sub> D<sub>1</sub> Y<sub>1</sub> S<sub>1</sub> S<sub>2</sub> P<sub>1</sub> A<sub>1</sub> R<sub>1</sub> L<sub>1</sub> P<sub>2</sub> L<sub>2</sub> P<sub>3</sub> L<sub>3</sub> V<sub>1</sub> K<sub>1</sub> O<sub>1</sub> I<sub>1</sub> N<sub>1</sub> V<sub>2</sub> C<sub>1</sub> O<sub>2</sub> K<sub>2</sub> R<sub>2</sub> I<sub>2</sub> K<sub>3</sub> S<sub>3</sub> M<sub>2</sub> D<sub>2</sub> I<sub>3</sub> F<sub>1</sub> R<sub>3</sub> I<sub>4</sub> 83  
 hCC-R2b M<sub>1</sub> T<sub>1</sub> S<sub>2</sub> R<sub>2</sub> F<sub>1</sub> R<sub>3</sub> N<sub>1</sub> S<sub>3</sub> R<sub>4</sub> E<sub>1</sub> V<sub>1</sub> F<sub>2</sub> G<sub>1</sub> V<sub>2</sub> G<sub>2</sub> N<sub>1</sub> M<sub>2</sub> V<sub>3</sub> D<sub>1</sub> L<sub>2</sub> I<sub>3</sub> F<sub>4</sub> I<sub>5</sub> 95  
 hCC-R3 M<sub>1</sub> T<sub>1</sub> S<sub>2</sub> R<sub>2</sub> F<sub>1</sub> R<sub>3</sub> N<sub>1</sub> S<sub>3</sub> R<sub>4</sub> E<sub>1</sub> V<sub>1</sub> F<sub>2</sub> G<sub>1</sub> V<sub>2</sub> G<sub>2</sub> N<sub>1</sub> M<sub>2</sub> V<sub>3</sub> D<sub>1</sub> L<sub>2</sub> I<sub>3</sub> F<sub>4</sub> I<sub>5</sub> 87  
 hCC-R1 M<sub>1</sub> P<sub>1</sub> N<sub>1</sub> T<sub>1</sub> D<sub>1</sub> T<sub>2</sub> I<sub>1</sub> D<sub>2</sub> T<sub>3</sub> F<sub>1</sub> D<sub>3</sub> T<sub>4</sub> F<sub>2</sub> D<sub>4</sub> T<sub>5</sub> V<sub>1</sub> Q<sub>1</sub> K<sub>1</sub> R<sub>1</sub> I<sub>2</sub> T<sub>6</sub> M<sub>2</sub> T<sub>7</sub> S<sub>1</sub> I<sub>3</sub> V<sub>2</sub> I<sub>4</sub> L<sub>1</sub> D<sub>5</sub> I<sub>6</sub> F<sub>3</sub> I<sub>7</sub> 87  
 hCC-R4 M<sub>1</sub> P<sub>1</sub> D<sub>1</sub> A<sub>1</sub> D<sub>2</sub> I<sub>1</sub> D<sub>3</sub> I<sub>2</sub> S<sub>1</sub> N<sub>1</sub> Y<sub>1</sub> E<sub>1</sub> S<sub>2</sub> I<sub>3</sub> P<sub>2</sub> C<sub>1</sub> P<sub>3</sub> T<sub>1</sub> G<sub>1</sub> K<sub>1</sub> F<sub>1</sub> G<sub>2</sub> E<sub>2</sub> F<sub>3</sub> P<sub>4</sub> L<sub>1</sub> P<sub>5</sub> S<sub>2</sub> L<sub>3</sub> V<sub>1</sub> V<sub>2</sub> V<sub>3</sub> I<sub>4</sub> L<sub>5</sub> D<sub>6</sub> I<sub>7</sub> F<sub>7</sub> V<sub>4</sub> T<sub>8</sub> 92

FIG. 2

FIG. 2A  
FIG. 2B

FIG. 2A  
FIG. 2B

	CCR5	hCC-R2b	hCC-R3	hCC-R1	hCC-R4	V	VI	VII	VIII
YTCSSHEPYSQOFWNFOTLKV	TIGLVLPLMMVICYSGILKTLR	TCRNEKKRRAVLIFTIMIVYFLW	APYNIVLVLNTFQEFFGLNNC	272					
YMCPIFPRG . . . WNFHTLMRNL	PLMMVICYSGILKTLR	TCRNEKKRRAVLIFTIMIVYFLW	APYNIVLVLNTFQEFFGLNNC	280					
TLCSSALYPEDTVSWRHFHTMRN	PLMMVICYSGILKTLR	TCRNEKKRRAVLIFTIMIVYFLW	APYNIVLVLNTFQEFFGLNNC	276					
HPTSSHEPHESTREWKLFOAKLNL	PLMMVICYSGILKTLR	TCRNEKKRRAVLIFTIMIVYFLW	APYNIVLVLNTFQEFFGLNNC	276					
TYCKTKYSLNST	PLMMVICYSGILKTLR	TCRNEKKRRAVLIFTIMIVYFLW	APYNIVLVLNTFQEFFGLNNC	279					
SSSNRLDQAMQVTEGIGMTHCCINPIIYAFGEKRNLYLFF	PIKHTAKR	FCKCCSITQOFAPERASSYVTRSTGEQEISVGL							352
ESTTSQDQATOVTEGIGMTHCCINPIIYAFGEKRNLYSFFRKHTEKR		FCKCCSITQOFAPERASSYVTRSTGEQEISVGL							360
ERSKHDLLVMMVTEVAYSHCCINPIIYAFGEKRNLYSFFRKHTEKR		FCKCCSITQOFAPERASSYVTRSTGEQEISVGL							355
EQSREHDLAVQVTEVAYTHCCINPIIYAFGEKRNLYSFFRKHTEKR		FCKCCSITQOFAPERASSYVTRSTGEQEISVGL							355
TEERYLDYAIQATETIAFHECCINPIIYAFGEKRNLYSFFRKHTEKR		FCKCCSITQOFAPERASSYVTRSTGEQEISVGL							360

FIG. 2B

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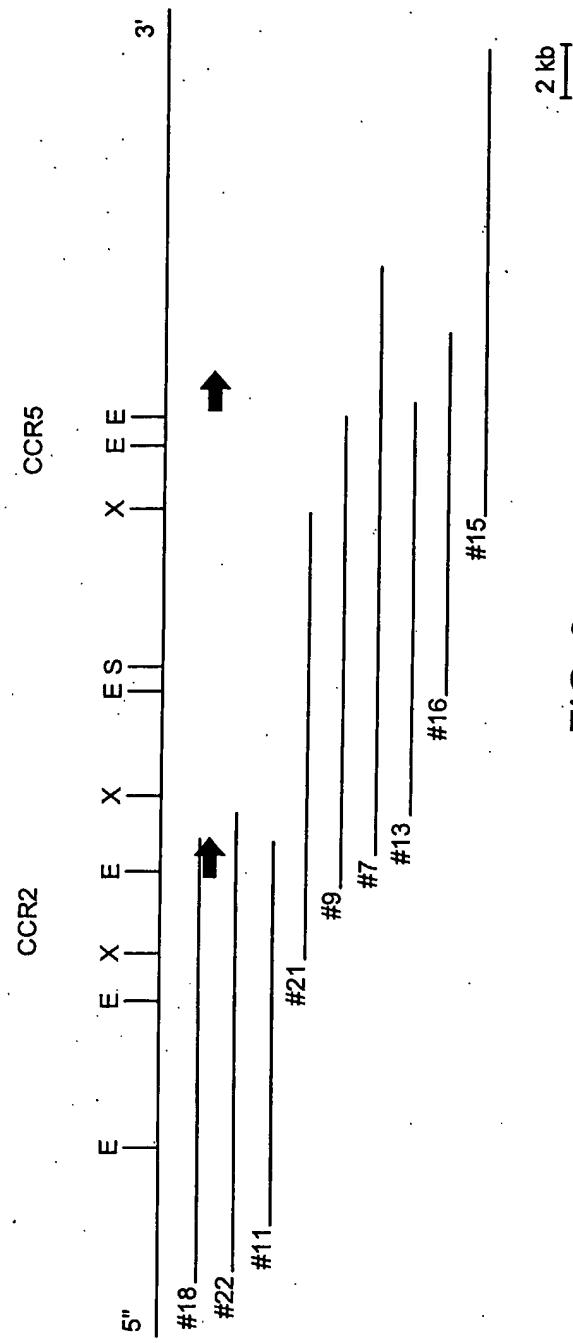


FIG. 3

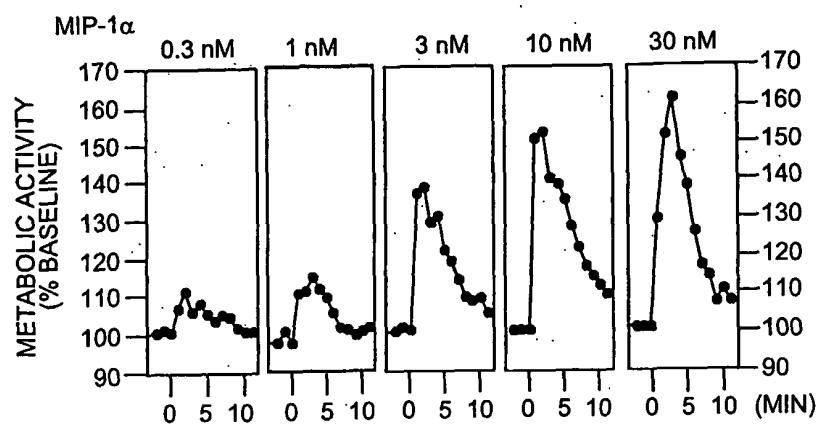


FIG. 4A

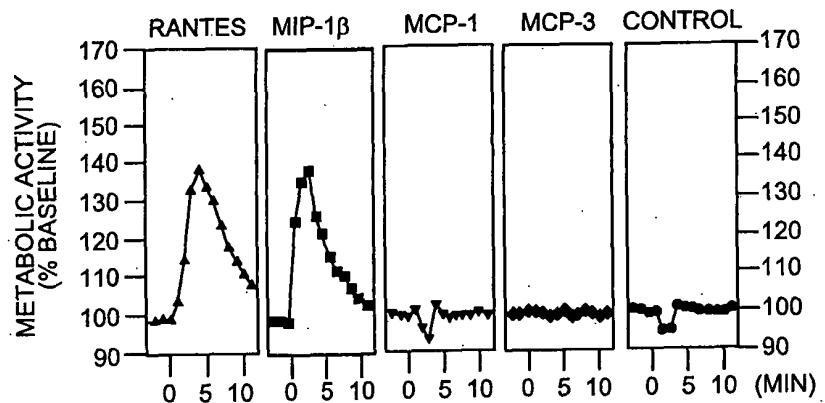


FIG. 4B

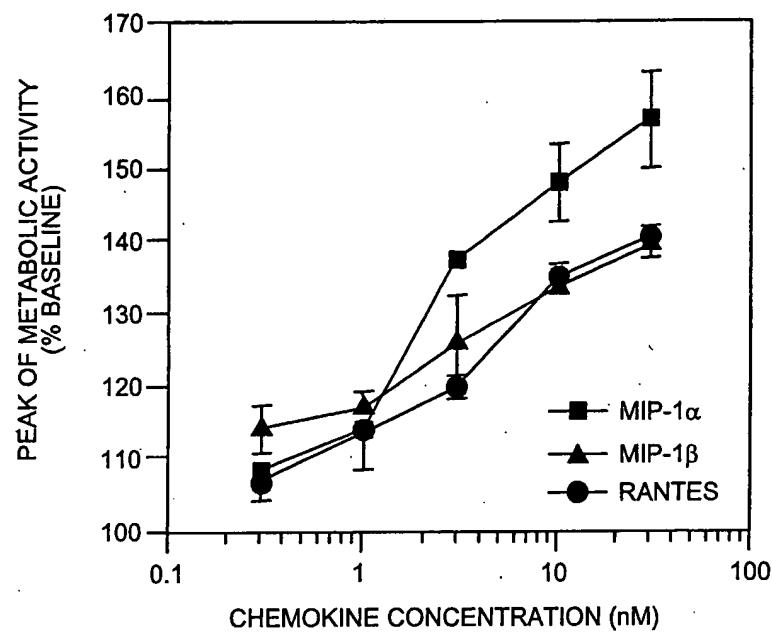


FIG. 4C

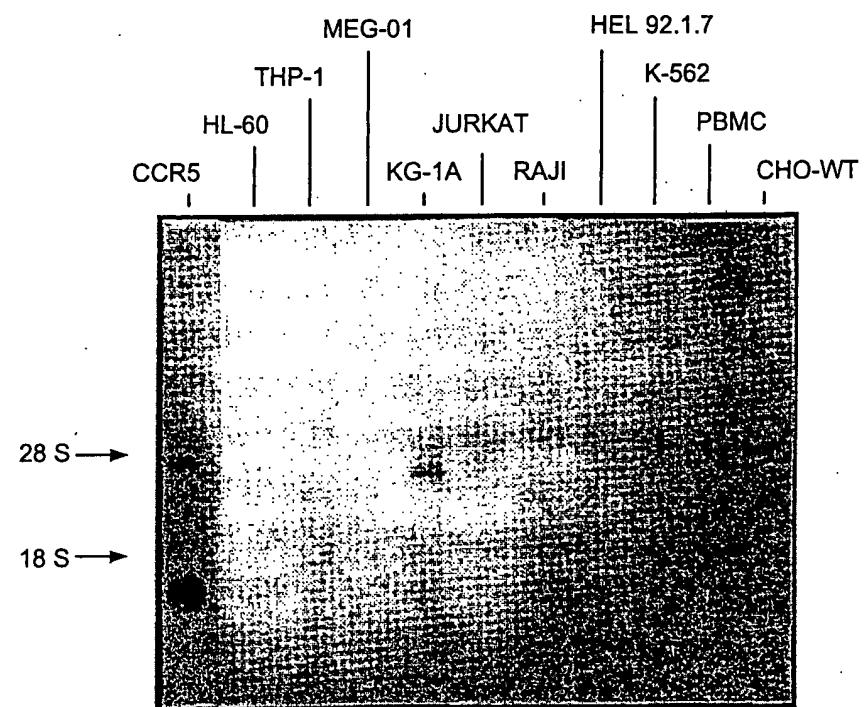


FIG. 5

**BEST AVAILABLE COPY**

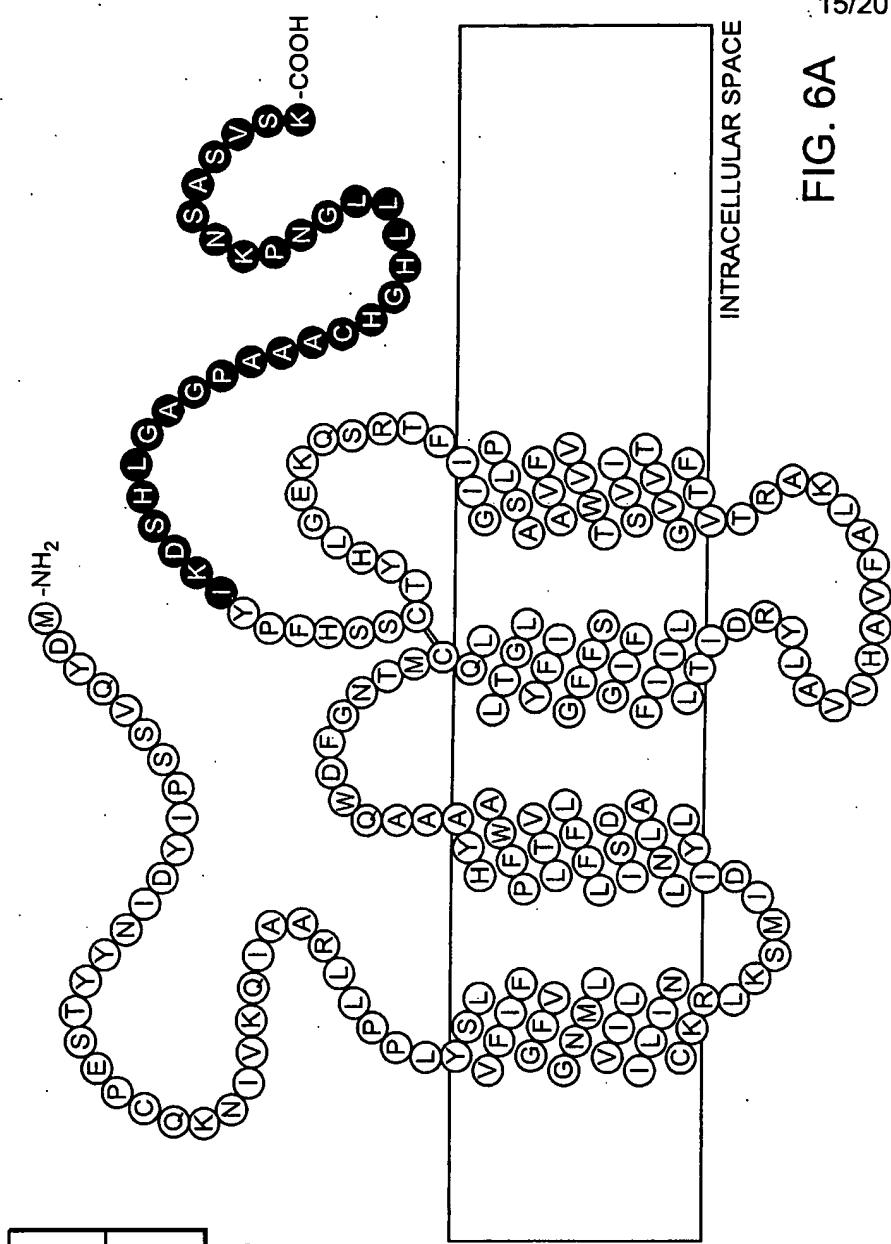


FIG. 6A  
FIG. 6B

FIG. 6A

CCR5	F	P	Y	S	Q	Y	Q	F	W	K	N	F	Q	T	L	K	I	V	I	L	G	L	V	L	P	
<i>Δccr5</i>	F	P	Y	<u>T</u>	<u>T</u>	<u>T</u>	<u>C</u>	<u>C</u>	<u>A</u>	<u>T</u>	<u>A</u>	<u>G</u>	<u>t</u>	<u>c</u>	<u>g</u>	<u>t</u>	<u>c</u>	<u>a</u>	<u>a</u>	<u>g</u>	<u>a</u>	<u>a</u>	<u>g</u>	<u>g</u>	<u>c</u>	<u>g</u>

deletion

FIG. 6B

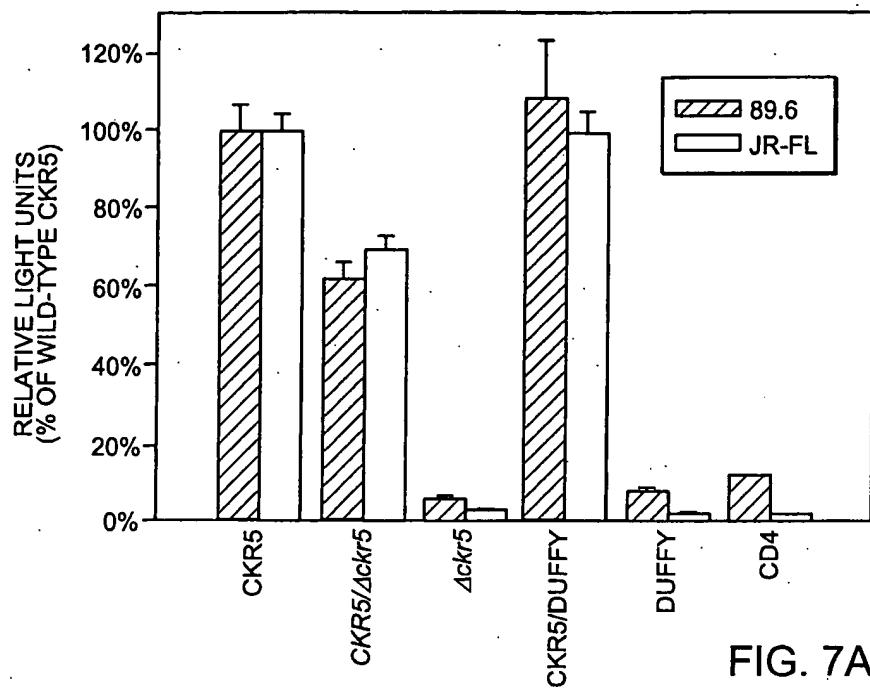


FIG. 7A

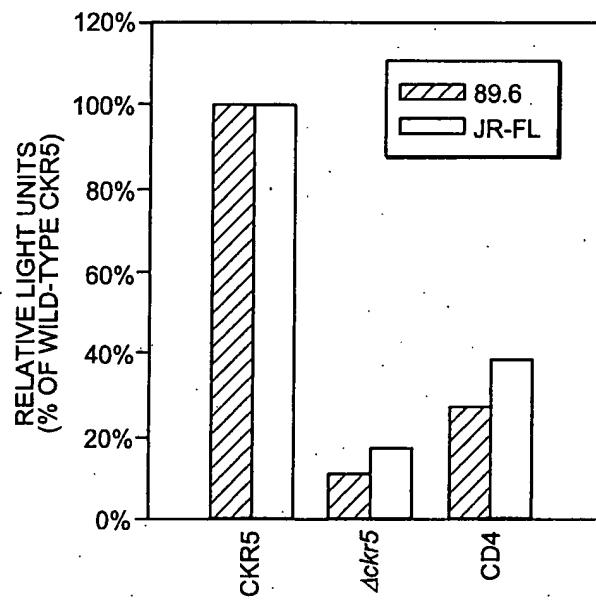


FIG. 7B

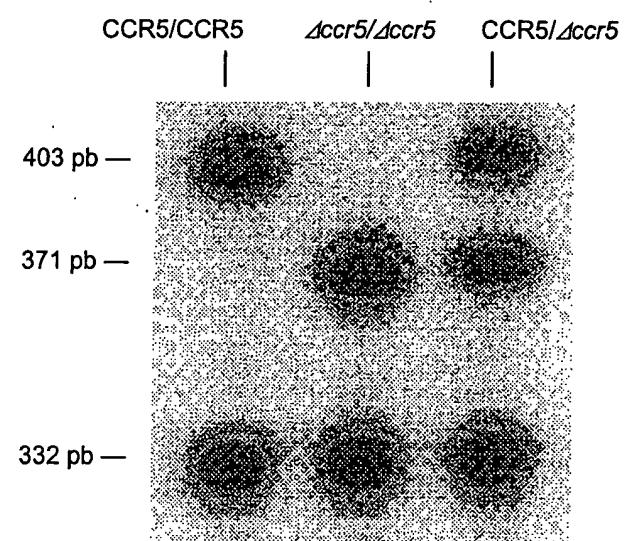


FIG. 8

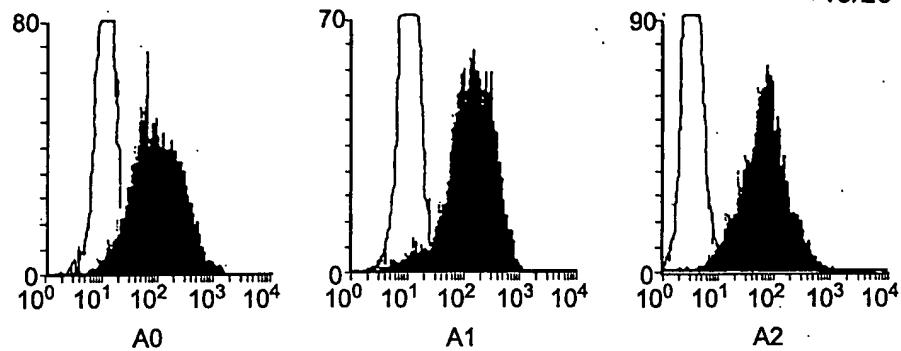


FIG. 9A

FIG. 9B

FIG. 9C

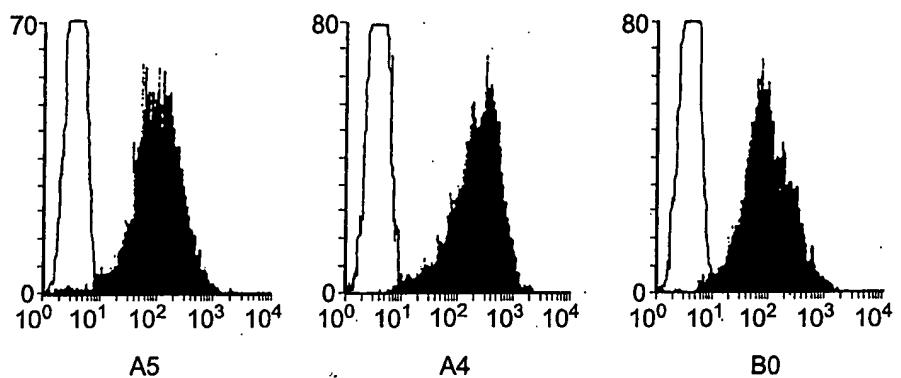


FIG. 9D

FIG. 9E

FIG. 9F

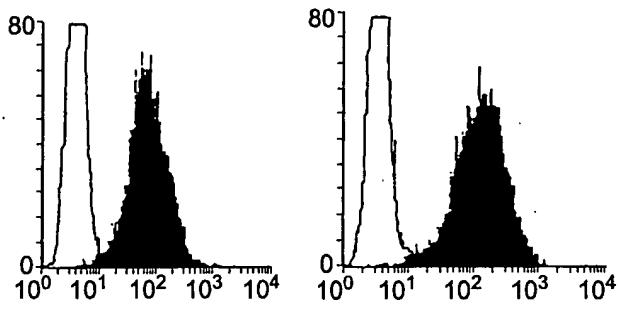


FIG. 9G

FIG. 9H

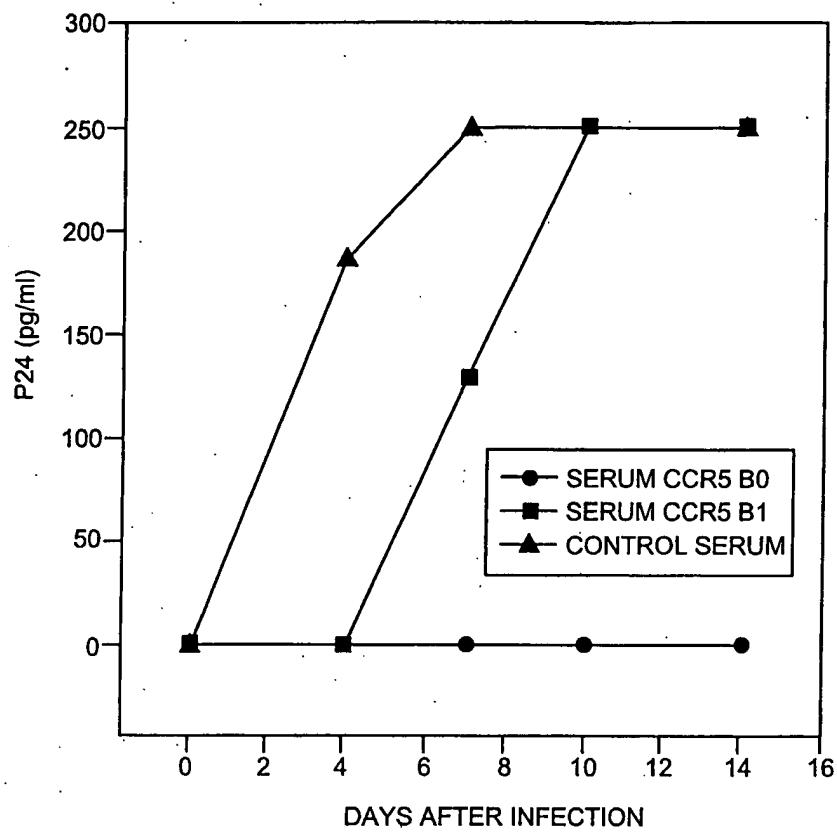


FIG. 10